

vessel trouble operation will do no good, and this has been my experience in the few cases in which I have tried it. In the only two cases in which glaucoma and this occurred together operation was done, with a good reduction of tension, in both the field continued to disappear, and nearly complete blindness was the end.

It is obvious that this thesis cannot be regarded as proved; it is shown to be a great probability. The final proof would be provided if a well established case of cavernous atrophy were found to have the branches of the Circle of Zinn narrowed at a post-mortem on the affected eye. And, as this disease is not one causing death, the chance of obtaining material for this proof is very small.

ARABIAN OPHTHALMOLOGY*†

BY

W. B. INGLIS POLLOCK

GLASGOW

Introduction

THE subject is the Arab School of Ophthalmology which, commencing in the 9th century continued until the 13th century.

It is not possible to enter into details of the life of each of the Arabic eye surgeons who produced a treatise nor even a full description of their textbooks, but for any student reference must be made to Hirschberg's (1843-1925)¹ brilliant History of Ophthalmology. He was a famous Greek and Latin scholar and translated a number of the Arabic writings with the aid of two orientalists, Lippert and Mitwoch after working at Arabic for twenty years.

After the death of Mohammed (571-632) his followers carried his domain and creed to India in the East and along the entire Northern countries of Africa, to Spain in the west. They actually reached Tours, but were defeated by Charles Martel in 732 and again in 737.

Baghdad was founded in 763 and became the capital of the Empire of the Saracens and during the reign of the Abbasid Caliphs of the 10th century many scholars and physicians translated most of the Greek scientific and medical works into Syrian and Arabic.

Gunde Shapur, a town in Persia, founded by Shapur I, in the 3rd century, became later the home of Nestorian Christians whose

* Paper read in the Summer Series in the Department of Ophthalmology, University of Glasgow, May 30, 1945.

† Received for publication, March 30, 1946.

(¹) G. S. Hb. Vol. XIII, XV, 1908, 1918.

physicians founded a Medical School, and translated Hippocrates and Galen into Syriac. Browne² states there must have been a Persian Pharmacology, as many of the Arabic names are of Persian origin. Some of their physicians were called to the Caliphs at Baghdad in consultation.

Abu Zaid Hunain Ibn Is-Haq (Johannitius) 809-877 was the author of the first systematic text-book of ophthalmology, which has come down to us. He was born at Hira, the son of a Christian druggist, went as a boy to the medical school of Gunde Shapur, but he asked so many questions that his teacher, Ibn Masawayh, drove him away and he left for Greece to learn Greek.

On returning four years later he went to Basra to learn Arabic at its High School so that he now knew four languages, Persian, Greek, Arabic and Syriac, his native tongue. He then, at the age of nineteen, went to Baghdad, and entered the service of the chief physician, as a translator, and as a student of medicine. He had already tried translation of a few books of Greek into Syriac. Coming to the notice of the Caliph, he was put in charge of the translations, and a few years later he was asked to prepare a poison for one of the Caliph's enemies, but Hunain refused in spite of a promise of a rich reward and he was put in prison for a year. Then he was threatened with instantaneous death, but he again refused, because both his religion and his profession forbade it, and being again threatened with death he said, "I have a Lord who will give me my right to-morrow in the supreme uprising so if the Caliph would injure his own soul, let him do so." The Caliph then said that he was only testing Hunain's probity, and he sent him to purchase Greek Manuscripts wherever he could get them.

Some years later, owing to the jealousy of other physicians, he was handed over to the Bishop, who imprisoned him and had him flogged several times. His goods, books and money were all taken from him. During this period he managed to make a list of the books he had translated : and this has been preserved.

On release after curing the Caliph of an illness, his fortune was restored, his books returned, and the other physicians had to pay him 10,000 drachmae each.

Hunain pardoned his enemies and disdained to take revenge on them and had peace thereafter until his death.

During Hunain's life he translated 39 books of Galen, and many volumes of Hippocrates, of Oribasius, of Paulus Aegineta, of Dioscorides, of Rufus, and the Septuagint (the Greek Old Testament) into Arabic.

He translated first into Syriac, then his nephew put the text into Arabic, which was then corrected by Hunain himself. His method was to take the several copies, and collate them to get the best result. He redid his youthful efforts as he thought they were not

good enough, as well as 50 Syriac versions made by his predecessors.

Hunain and his nephew, Hubaish, are said to have taken great pains to express the sense of the Greek original. Browne² points out that the Arabic takes Greek words well, but that Latin does not take up many Arabic words at all. Hunain's son Is-Hâq became a great translator of Aristotle.

During over 30 years 830-870 Hunain collected all the notes he had made on eye subjects and brought them out as *The Book of the Ten Treatises on the Eye*, the first systematic textbook of Ophthalmology.

There were just nine when Hubais, his nephew, asked him to make a tenth, of the compound remedies.

- I. Nature of the eye and its structure.
- II. Nature of the brain and its use.
- III. Optic nerve and visual spirit.
- IV. Conservation of health.
- V. Causes of accidents to the eye.
- VI. Symptoms of diseases of the eye.
- VII. Virtues of all remedies.
- VIII. Kinds of remedies and their species, particularly for the eye.
- IX. Medical treatment of the eye.
- X. Compound remedies for eye diseases.
- XI. Operative treatment for the eye.

The XIth, of operations, was added at the request of his sons, Dâwûd and Is-hâq for whom Hunain also issued a book of 207 questions and answers on anatomy, physiology and pathology of the eye, of which Meyerhof has found five manuscripts.

Although "The Ten Treatises" was the first systematic textbook of ophthalmology, yet it placed the diseases, together with aetiologies, symptoms and treatments, each grouped in separate chapters and finally compound treatment and operations at the end.

Hirschberg could not find a copy of the Ten Treatises, but found numerous quotations in Ar-Razi's (850-932) great Medical Encyclopedia and also in succeeding textbooks of ophthalmology, as many oculists had quoted from the work for at least 500 years up to the time of the Mongol disaster.

He discovered that two mediaeval Latin textbooks, *viz.* :— *Liber de Oculis Constantini Africani*, 1515, and *Galenus de Oculis Liber a Demetrio translatus*, 1541, were pure translations of Hunain's book, with exact sequence of chapters, claimed each as their own by these two translators.

From these two and Ar-Razi, Hirschberg was able to deduce that they were existing under false names.

(²) *Arabian Medicine*, 1921. by Edward Granville Browne.

After Hirschberg's death, Meyerhof³ of Cairo found two manuscripts of Hunain one in Cairo and one in Leningrad.

The Cairo manuscript had been made in 1003, transcribed in Spain. The Leningrad had been clearly written by a Jewish oculist pilgrim to Jerusalem in 1156.

After a long search Meyerhof found a MS. copy of Ar-Razi's Encyclopaedia in the Escorial Library of Spain, and got from it 30 quotations from the Ten Treatises.

He was able therefore, with the two MS., the quotations from Razi, and the two Latin translations to collate the five of them and bring out a New Edition of the Ten Treatises of Hunain in Arabic and in English, with a glossary of medical terms occurring in the text translated into Greek and into English in 1928.

Most of Hunain's books have been lost but Meyerhof believes copies are still to be found in the numerous libraries of Constantinople.

L. Leclerc said that Hunain is the greatest figure of the IXth century, one can even say that he is one of the finest intelligences and one of the most beautiful characters. The marvellous extent of his works, their variety, their superiority and their importance; the tests which he bore so nobly at the beginning and in the course of his career all demand our interest and sympathy for him. If he did not create the renaissance movement in the Orient, no one took as active, as sure and as fruitful a part.

Hubais wrote a textbook on "Recognition of Eye Diseases," with pictures of the eye and of several eye diseases, the pannus and pterygium.

Sadili, five centuries later, says that Hubais, like his uncle Hunain, mistakes hypopyon for cataract.

Mohammed ibn Zakarijah Abn Beks Ar-Razi (850-932) followed Hunain and is perhaps the greatest Arabic Medical writer. Into his immense textbook "The Content of Medicine" he entered everything of Greek, Latin, and Indian, even up to his own time, with his own experience added so that it has become a quarry for Greek and Arabic Medicine. He wrote a smaller work called "Mansur" which also contains an eye section. They were both translated into Latin.

In the Eye Section, found in the second book, he entered Hunain's Treatise and what he found in Greek but he also described the reaction of the pupil to light and shade which no one had noticed before his time.

Abu Ali Muhammed b. Al-Hasan ibn Al-Haitam Al-Basri Alhazen 965-1038. A mathematician who proved what Ar-Razi had said, that no light, or pneuma rays passed from the eye to the object and back again. This was the doctrine of the Greeks.

(³) Reviewed in the *Brit. Jl. Ophthal.*, Vol. XI V, p. 506, 1930.

He proved that light from each part of the object went to the eye. He was the greatest writer on optics between Ptolemy (about 150 A.D. and Kepler 1571-1630. Alhazen's chief work was translated into Latin and published in 1572 under the title "Opticae Thesaurus Alhazeni" at Basel.

Abul Kasim ben Abbas al Zarawi Albucasis (⁴) was a Spaniard and he died at an extremely old age at Cordova in 1013. His great work on medicine:—"Al Tasrif" (The Explanation) contained the best surgery, including ophthalmic surgery, of the Arabs. He had little honour in his own time; but when his masterful and comprehensive surgery was translated into good Latin by Gerard of Cremona and was printed in 1497 in Venice and reprinted there frequently and circulated in mediaeval Europe, it in itself drew the attention of the learned to the remainder of the Arab writers. The eye operations are in the second book:—

Chapter	Chapter
8. Lids. Warts.	17. Wild Flesh and Chemosis.
9. Chalazion.	18. Pannus.
10. Hydatids.	19. Lacrimal Fistula.
11. 12. Fifty operations for cilia.	20. Prolapsed Eyeball.
13. Lagophthalmos.	21. Prolapsed Iris.
14. Ectropion inferior lid.	22. Hypopyon.
15. Symblepharon.	23. Cataract.
16. Pterygium and Carbuncle Tumour.	

Abul Kasim was excelled only by Ali ibn Isa and Ammar as an ophthalmic surgeon. He has about 20 operations in 16 chapters. His description is fair but not so good as in the two authors mentioned above; and it looks as if he had copied his description of cataract couching rather than performed the operation himself. Still he is quoted several times by William Mackenzie⁵ of Glasgow, in his well known textbook⁵.

More than a century after Ar-Razi came Ibn Sina⁶ the Avicenna of the Middle Ages. He was the greatest medical writer whom the Arabs produced. He was born at Khorassan in Bokhara in A.D. 980. At the age of 10 he knew the Koran by heart and was a great reader and writer all his life. His renowned Encyclopaedia of Medicine was called "The Canon."

"The Canon," by its arrangement and exactness makes a magnificent, complete and large textbook of all branches of medicine, including surgery. It is said to be written in a fine style.

His works number 105 and were both in prose and in verse and

(⁴) Albucasis Methodus Medendi. 4to. Basiliae 1541. Lent by R.F.P.S.G. Latin Edition same as used by Wm. Mackenzie.

(⁵) "A Practical Treatise on the Diseases of the Eye." Editions I-IV, 1830-1854

(⁶) Avicenna Liber Canonis. Folio Venet. 1544. Lent by R.F.P.S.G.

treated of law, astronomy, philosophy, mathematics, statesmanship as well as medicine.

"The Canon,"⁶ was translated into Latin by different authors and into Hebrew and remained the chief textbook for 500 years in Europe.

Hirschberg (Leipzig, 1902) translated the eye section with the aid of J. Lippert. He found that the Latin translations had many mistakes and that to get a truer translation he had continually to work with the Greek sources, namely Oribasius and Aetius and Galen.

By these means he was able to find both what Avicenna owed to the Greeks and what was added by Arabic thought and experience.

At the same time Hirschberg produced a glossary of Arabic in Greek and German.

Avicenna gave less attention to the important subjects, like trachoma and cataract, which suggests that he had not operated for the latter and was therefore not a practising oculist. Shastid states that "he was all his life a great student and a wicked man. In his 58th year he died, 1038, as a result, it is said, of excessive study and dissipation. Still unkindlier writers aver that he perished because, when sick, he took his own medicine."

- We now come to the writers of the two best textbooks on diseases of the eye:— The first is Ali Ibn Isa, also called Jesu Haly, who lived during the first half of the 11th century, 150 years after Hunain. He wrote the authoritative textbook called "The Memorandum Book for Oculists."

He gives the greatest attention to frequent diseases like conjunctivitis, trachoma and cataract, and the subjects are given in the order of anatomy as then known. For each disease are given the physical signs and symptoms, aetiology, diagnosis and finally the treatment, general, dietetic and local; each disease fully treated is complete in a chapter by itself.

This remained the standard textbook for the Middle Ages. Latin translations by Guido de Cauliaco appeared in print in Venice in 1497, 1499, and 1500. Of the 1499 edition one copy, and of 1513 two copies are in the library of William Hunter, in the Hunterian Museum of the University of Glasgow; while the Royal College of Physicians of Edinburgh possesses a copy of the 1500 edition, and the Royal Faculty of Physicians and Surgeons of Glasgow has a copy of 1544. In these translations he is called Jesu Hali.

C. A. Hille published in 1845, in Dresden, a Latin translation and Hirschberg and Lippert issued in 1904 a German translation collated from five copies. P. Pansier also issued in 1903-1933 a Latin and French edition.

Casey A. Wood published an English translation in 1936, of the

Tadhkirat, The "Memorandum Book of a Tenth-Century Oculist for the use of Modern Ophthalmologists."⁷

He made it from several copies of the Arabic, collated with Hirschberg's German translation, revised by Meyerhof of Cairo. He has introduced the list of ophthalmic remedies which had been at the very end of the volume, and placed it at the beginning of the III section on the internal diseases; and had added to it all remedies employed by other Arabic authors, thus including what they had learned from Greek and Latin authors. Wood has introduced a number of illustrations of the plants used from a Latin edition of Dioscorides of Venice, 1554 A.D. a fairly good bibliography, and a short resumé of the five centuries of Arabic Ophthalmology are included in a handsome setting.

Cataract Operation

Ali Ibn Isa describes very carefully the exact procedure, including preliminary treatment for the operation of cataract couching and proceeds thus:—"While the needle is in the eye of the patient speak kind words to the patient so that his anxiety may be lightened." No other writer had given this advice. Ali Ibn Isa introduced also drugs to make the patient sleep during painful operations, but he considered that "couching was not a painful operation." He made great advances beyond Hunain, and included 130 eye diseases, and one has to wait to the 18th century before an equal advance was reached by the discovery of the real site of cataract, and of glasses for defective vision and the 19th century for the ophthalmoscope, and modern surgery.

The second writer is Ammar b, Ali Al-Mausili whose book is called "The Select Book on the Ophthalmologic Science."

He was born at Mosul on the banks of the Tigris. He was a great traveller, as all Mussulmans must visit the Holy places in Arabia; and thereafter he visited Egypt, Palestine, and Syria. He visited Khorassan because he heard that they had a good remedy for blepharitis. Another time during a caravan journey near Kufa he saw the marvellous cure of a bedouin suffering from "Obstruction of the Optic Nerve." He performed cataract operations mostly in Egypt as he settled in Cairo.

His text-book has 125 chapters and he mentions 50 principal diseases of the eye with their medical and surgical treatment. Ammar was famous during his life time, but Hirschberg points out that the shortness of the book, and the conciseness of the space given to each affection militated against the book becoming a favourite with students, while Ali b. Isa with his thorough description and discussion of diseases would be selected, and in fact it was a favourite for 500 years, while Ammar's had not been taken from the library, or had a paper written on it for the last 200 years.

(⁷) Reviewed in *Brit. Jl. Ophthal.*, Vol. XX, p. 444, 1936.

Ammar gives a good description of four of his cataract operations, including his use of the hollow metal needle for extraction of the cataract. The Greeks had used a hollow glass tube for suction of a soft cataract but the procedure had been abandoned; and Ammar is the first man to have employed suction through a specially devised hollow metal tube for suction of a soft cataract.

He was the most original writer among the Arabs, and his text-book was quoted by writers for 200 years; while Usaibia who lived 400 years after him said he was a famous eye surgeon, and he possessed dexterity in operating.

Meyerhof published, in 1937, a translation in Spanish, English, French and German, of the chapters on cataract operation, a copy of which was presented to each member of the XV International Congress of Ophthalmology, 1937.

Zarrin-Dast, or Gold Hand (refers to his gentle touch); a Persian who lived about 50 years later, wrote a textbook called "The Light of the Eyes." He was born in Gurgan on the Oxus and brought up in Persia. His text-book, in question and answer, includes Hunain's heads of chapters for the diseases and his list of operations corresponds to Ali ibn Isa's text-book; but his cataract operations to Ammar's Select Book and it was the best text-book in Persian for many centuries.

He also used a hollow needle and pointed out that it is easier to couch hard cataracts than to perforate, while soft cataract is more difficult to couch and is better suited for suction.

His rules for after treatment are:—"If no inflammation for three days give chicken soup, after three days more a little veal; three days later lamb and the usual diet from the 20th day—no exercise or copulation for six weeks."

The Persian book is not so good as either of the two already mentioned and it was never quoted by other Arab writers.

In the 10th century, about 940 Ahmad and Omar Ibn Younos, two young Spanish Moors travelled to Mesopotamia, to study under Ibn Wasif, a celebrated oculist in Baghdad.

In these journeys students had always to visit the sacred places of Arabia, so that they performed the double duty of study and pilgrimage. They returned to Spain in 963.

Ibn Wasif. Shastid relates that on a certain day seven cataract patients came in a body to Ibn Wasif's door. Of these one offered him, for an operation, 80 drachma, pretending that this amount constituted his entire fortune. But just at the critical moment the patient's girdle broke, strewing the whole floor with glittering gold pieces. In anger, Ibn Wasif arose and drove the liar from his house. "All of which shows that patients have always been as tricky and oculists as easily imposed upon and with all, as uncalculatingly irritable as is the case today."

They were followed a century later by Ibn Wafid, known to the Middle Ages as Abenguefit, who became an oculist and minister under the government of Toledo.

But his treatise on Ophthalmology has been lost. Leclerc, in searching for it, discovered that of Al Ghafiqi, which was reviewed by Leclerc and Hirschberg and has been translated into French by Meyerhof, 1933.*

The latter misses out the anatomy because it is the same in so many of these Arabic textbooks.

In the translation he shows a number of the instruments and discusses the treatment of each condition.

There is added to the book a glossary, Arabic-French, and on pages 8 and 9 a photograph of the manuscript showing signs of burning at the lower part of each page.

Ghafiqi's introduction is amusing:— "After I had acquired insight into this branch of medicine, I mean Ophthalmology, I have not found a book which holds all that is necessary for both science and practice. In my view, Hunain Ibn Ishaq has composed two books on this speciality, the one *The Ten Treatises*, the other *The Argument and The Answer*. He has abridged them in composition."

"Ali Ibn Isa has written a book called 'The Missive,' and has perfected what Hunain had wrought, save what concerns chemosis. He says it is a swelling of the inside of the lid and he does not advise operation.

"Ibn Sina, 1314, recognises, on the contrary, in chemosis a swelling of the conjunctiva. I do not know whether the mistake of Ibn Sind is due to himself or to a transcriber.

"Ammar of Mosul has abbreviated his book so extremely that chemosis is not mentioned, whereas Abul Kasim cites and explains that it is granulation tissue growing on the inside of the eyelid. I confirm this. I have often treated it with the knife: and obtained a complete cure; the lid recovering its proper shape and position."

This example is badly selected by Al-Ghafiqi for challenging his predecessors; as both Abul Kasim and he have confused chemosis with ectropion luxurians.

Hirschberg states, to employ a picture used by our Arabic colleagues, that Ghafiqi has clothed a puny body with a far too wide robe of scholastic learning.

Halifa B Abi I-Mahasin from Aleppo wrote a book with tables in 1256 called "The Kafi" or "The Sufficient in Ophthalmology." He issued tables on the subjects of theory and practice of Ophthalmology. Then tables of number of diseases and of operations and instruments⁸. He was keen on couching cataract and

(*) Hirschberg, Plates 1 and 2, pp. 198, 199, Vol. XIII.

*A copy was presented to each member of the XIV International Congress of Ophthalmology, 1933.

even employed it in the case of one-eyed men and also used venesection even for an Emir.

Salah Ad-Din, oculist from Hama in Syria, wrote a book entitled "The Light of the Eyes" in 1296. In his preface he reviewed the oath of Hippocrates which had already been translated by Hunain and by Ghafiqi. He introduces mathematics and figures from Euclid into his textbook as well as the usual chapters on diseases and operations.

The first illustrations in "The Ten Books of the Eye" by Hunain are believed to have come from Greek sources. The first shows the lens in the centre of the eyeball, with a chamber between it and the pupil occupied by the visual spirit.

The same illustration is introduced in Professor Sorsby's book "A Short History of Ophthalmology" as a frontispiece, 1933, explaining the different parts of the eye.

Hunain's second illustration is shown on page 12 of "The Ten Books."

His third illustration shows the insertion of the recti muscles and the oblique muscles.

The fourth illustration is on page 51.

It seems that Petit in 1723 A.D. was the true discoverer of the position of the lens in the human eye.

Galen knew of the crossing of the two optic nerves and Hunain explains the difficulty of a blind eye by saying that the visual spirit comes from the brain and flows down each optic nerve. If one eye is blind, then on his assumption, the visual spirit returns from it to the crossing and then continues down the optic nerve of the healthy eye.

Hirschberg, Fig. 2, p. 151, shows the idea of the crossing of the two optic nerves and is taken from Salah Ad-Din.

The question of Cataract and Hypopyon.

The early Arabians considered that the differential diagnosis between pus in the anterior chamber and cataract could be helped by shaking or turning the head of the patient.

Justus wrote that through shaking of the head the pus remains under, on account of the weight of its substance. On the contrary, the cataract does not remain under if one moves it carefully, for the cataract is lighter than the pus.

Cataract

Considerable discussion has taken place regarding Ammar's suction operation for cataract extraction. (Read his description in Meyerhof, pages 46-49.)

Hirschberg, after reviewing the cataract operations of the Greeks and early Arabians, concludes that Ammar's was a new operation with a hollow metal needle, which succeeded in his

hands, and in a number of his successors for two hundred years. The Greeks had employed a hollow glass tube, but that had been given up; and Ammar's procedure was also abandoned, until it was revived in the 19th century. Late writers mention seeing or buying Ammar's hollow metal needle: but they were unable to make it suck up water. They were blocked by rust or debris of lens matter.

Glaucoma

Glaucoma was the term used by the Greeks for blindness coming on in later life with a greenish colour in the pupil. There was no knowledge of increased tension as the cause of the condition, but our latest author* points out that the Arabic eye surgeon, Sams Ad-Din describes the symptoms of acute glaucoma.

Ali Ibn Isa had said drying of the lens with bluish discoloration of the pupil is followed by loss of vision. Ammar stated drying of the humours dries the lens, and is incurable and the eye becomes blind. Tabari described chronic inflammatory rise of pressure: and Sams Ad-Din, nearly 400 years later said migraine of the eye with head pains occurs. It is then a pain in the depth of the eye, with a stitch of a pressure often continuous or intermittent . . . Hemi-crania precedes or accompanies dulness of the humours. Cataract may follow with dilatation of the pupil, and blindness.

Conclusion

It has been said that the Arabic Eye Books were mainly taken from the Greek; but Hirschberg points out that the latter had no good Eye Textbook, except that of Alexandros and he was never mentioned by the Arabians. What they took from the Greeks they had to select according to their own plan. They treated the Greek text with the greatest respect, discussed every word and then added their own observations, and they were often accurate in symptomatology, diagnosis and treatment.

I showed in my previous paper that the papyri Ebers, Edwin Smith, Chester Beatty, Kahner, and Petrie contain almost the entire medical curriculum. From the time of Celsus, who wrote on many subjects, the Greeks produced short textbooks, not one so complete as the Arabians, who were the first to write encyclopædic textbooks, which in their best period were all inclusive of medicine, surgery, midwifery and the sense organs, textbooks which nowadays would require a team of authors for even one subject.

Remember Ar-Razi's pupil reaction, and his advice if the conjunctivitis or corneal ulcer does not clear up, evert the upper lid,

* SIR STEWART DUKE-ELDER.—Text-Book of Ophthalmology, Vol. I, p. 118, 1942.

it may be trachoma. In treatment they introduced analgaesics for operations; peritomy for pannus, cautery for lacrymal fistula, pterygium and symblepharon plastic operations; and Eye Hospitals in Baghdad, Damascus and Cairo. When the Mongols and Tamerlaine decimated the first two, Cairo escaped because they did not reach Egypt.

NOTE.—Nearly all the volumes mentioned were shown during the meeting, including a photostatic copy of Zarrin-Dast's manuscript from Oxford University. There are a number of early editions in the Hunterian Library of the University of Glasgow, which cannot be taken out of the building, but may be shown to a meeting in the Library itself.

OCCUPATIONAL THERAPY IN EYE WARDS*†

BY

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OCCUPATIONAL therapy is really no innovation. Florence Nightingale evidently believed in it when she wrote "... a little needle-work, a little writing, a little cleaning would be the greatest relief the sick could have if they could do it."

But as an organised and purposeful therapy it really dates from the last War, when to quote the "Canadian Journal of Occupational Therapy" "... the need for occupation among convalescent soldiers became so apparent that short courses were given in Toronto." In 1928 this was extended to civilians, with the result that throughout Canada and the U.S.A. there is a highly organised and well developed system of occupational therapy both in hospital and for private patients in their homes, with excellent training schools where students receive a thorough grounding in the anatomical, physiological and psychological basis for their work. In Scotland, so far as I know, the Astley Ainslie Institute, Edinburgh, is the only civilian hospital participating in this work, indeed I believe it is the only place in Britain where eye patients receive such treatment.

Why should it be called a "therapy"? "The underlying theory behind it is that the provision of interesting and productive tasks for unwell people will assist them in accomplishing a cure." This is obvious in general medical and surgical cases (Cunningham, 1942).

It is obvious that if a muscle is wasted one can give it exercise without the patient's knowledge by prescribing a craft which will call this particular muscle into play. But it is not so obvious in the case of diseases of the eye. Generally speaking rest and not exercise is required. Here it might be said that the cheiroscope,

* Received for publication, February 8, 1946.

† Paper read to the Scottish Ophthalmological Club, October 27, 1945.